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CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 87-032

UPDATED REQUIREMENTS FOR:

ZANKER ROAD RESOURCE RECOVERY, INC. AND
ZANKER ROAD RESOURCE MANAGEMENT
ZANKER ROAD CLASS III LANDFILL
SAN JOSE, SANTA CLARA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, (hereinafter called the Board), finds that:

1. Zanker Road Resource Recovery, Inc., the landfill operator, and Zanker Road Resource Management, the site legal owners (hereinafter collectively referred to as the discharger) by application dated September 16, 1986 has applied for revision of their Waste Discharge Requirements (WDR), that includes the expansion of their existing facility, for the operation of a Class III landfill on approximately 45 acres located at 705 Los Esteros Road in San Jose, Santa Clara County. The project site is shown on Attachment A, which is incorporated herein and made a part of this Order.
2. The landfill will eventually occupy, including the existing fill area, approximately 46 acres. The project has an approximate lifetime of 10 years, at a disposal rate of approximately 300 cubic yards of refuse and construction debris per day.
3. The discharger proposes to accept at this landfill for disposal approximately 200 tons per day of commercial nonhazardous refuse and construction debris. No liquid wastes (i.e. less than 50% solids), and only minor amounts of nonhazardous decomposable wastes, will be disposed of at this site. The discharger also uses the site for a wood and concrete recycling operation. Residual waste from this recycling operation will be disposed of in the landfill.
4. The landfill and expansion area lies within the northern edge of the San Jose Plain between Coyote Creek and Alviso Slough. The site is underlain by approximately 1000 feet of alluvial sediments consisting of interbedded clays, silts, sand, and gravels. The site is bordered on the east by the San Jose/Santa Clara wastewater treatment plant sludge ponds, on the west by seasonal wetlands and the discharge channel from the treatment plant, and on the north by seasonal wetlands and a salt evaporator pond.

5. The landfill is currently regulated by this Board's Order No. 75-18. On November 20, 1985 the Board adopted Order No. 85-132, NPDES No. CA 0028762, permitting the discharger to fill 6 acres of seasonal wetlands in the 30 acre parcel to the north of the existing fill area. The discharger originally applied for a permit to fill the entire 30 acre parcel. However, the Board found that the entire 30 acres, with the exception of the elevated roadways, were seasonal wetlands. The discharger then reapplied for a permit to fill only 6 acres of the 30 acre parcel. The Board allowed the filling of 6 acres of wetlands based on Finding No. 10 of Order No. 85-132. The Board found that there was a public need to allow the filling of 6 acres of wetlands so that a leachate collection and removal system could be constructed along the northern boundary of the site and to provide some cover material to properly close the landfill.

The Board also found that "the fill expansion would also provide sufficient additional fill capacity to generate the revenues needed to close the site and that in the absence of an expansion of refuse filling into wetlands implementation of closure measures could be substantially delayed due to the limited remaining permitted fill capacity with which to generate revenues needed to close the site."

6. The site is located in a seismically active area on the eastern edge of the Silver creek fault zone. The Silver Creek fault is generally considered inactive and pre-Holocene. Three major active faults are located near the site: 1) the San Andreas Fault, about 13 miles to the west, 2) the Hayward Fault, about 3 mile to the east, and 3) the Calveras-Sunol Fault, about 6 miles to the east. The site meets the siting requirements contained in Title 23, Chapter 3, Subchapter 15 of the California Administrative Code (Subchapter 15) that requires landfills not to be sited on a Holocene fault.
7. The alluvial sediments underlying the landfill site contain groundwater from near the ground surface, at approximately mean sea level (MSL), down to bedrock at a depth of approximately 1000 feet. The groundwater immediately beneath the site can be divided into three zones: 1) the groundwater found from just below the ground surface to a depth of approximately 15 feet that exists in saturated bay muds and perched in more permeable old stream channels consisting of coarser sands and gravels, 2) the groundwater found below a depth of 15 feet to a depth of approximately 60 feet also exists in the more permeable alluvial deposits of the old stream channels, and 3) a "shallow" aquifer at a depth ranging from 60 to 120 feet below the ground surface where greater quantities of the coarser sand and gravels can be found. From a depth of 120 feet to approximately 200 feet below the ground surface a clay aquiclude exists which overlies a productive aquifer under artesian conditions. This aquifer underlies most of the Santa Clara Valley and is a source of large well production.

8. The groundwater found in Zone 1 acts as a recharge source for the sloughs, drainage channels, and wetlands surrounding the site. The groundwater found in Zone 2 is brackish, and of limited quantity that would not provide sufficient water for several households or one minor industry. The groundwater found in Zone 3 is less brackish than Zone 2, and of sufficient quantity to be used for a small water supply system if provided with treatment. It is also reasonable to assume that all three water bearing zones are interconnected. However, these three upper water bearing zones should not be interconnected to the useable groundwater found at a depth of approximately 200 feet below the ground surface because of the clay aquiclude separating the two zones and the artesian conditions that exist in the deeper aquifer. The only groundwater wells in the vicinity of the site are in this deeper (below 200 foot depth) aquifer.
9. Background water quality levels, in the three water bearing zones, for the purpose of establishment of Water Quality Protection Standards (WQPS), have not been determined. Compliance with the requirements of this Order will provide for the establishment of WQPS according to the requirements of Subchapter 15 within one year after adoption of this Order.
10. The property between the site and Los Esteros Road is owned by the San Jose Wastewater Treatment Plant and has been used by both the treatment plant and the old Nine Par company for the disposal of waste. The background groundwater quality must be established upgradient, or south, of the property between the landfill and Los Esteros Road because of the following reasons:
 - a. Municipal solid wastes and other unknown wastes have been disposed of on the property between the road and the landfill by the Nine Par company and the treatment plant. This is an unregulated and illegal disposal operation. Therefore, any well used for background groundwater quality must be upgradient, or south, of the property between the landfill and Los Esteros Road.
 - b. The direction of groundwater flow in this area, beneath both the landfill and the property between the road and the landfill, is towards the north (northeast to northwest). Therefore, the background well must be located south of the property between the landfill and the road in order to place the well beyond the areas where waste disposal has occurred.
 - c. The shallow groundwater beneath the landfill is polluted with low concentrations (below 3 ppb) of TCE, Chloromethane and Dibromochloromethane. This groundwater, as shown by the analysis of the groundwater in well G-6 between the landfill and the property to the south, also appears to be polluted with the following metals; 1) antimony, 2.9 ppm, 2) arsenic, 0.23 ppm, 3) cadmium, 0.14 ppm, 4) chromium, 0.11 ppm, 5) copper, 0.14 ppm, 6) nickel, 0.47 ppm, 7) selenium, 0.2 ppm, and 8) silver, 0.15 ppm. Additionally, all the other groundwater wells surrounding the landfill have shown similar concentration of the above cited metals.

- d. The source of the groundwater pollution, based upon the current data, is unknown. The source is probably the landfill, the illegal waste disposal between the landfill and Los Esteros Road, and/or the sludge ponds owned and operated by the San Jose Water Pollution Control Plant. However, the concentration of the metals may be the background concentrations in this area. This cannot be determined without installing and monitoring a well beyond the areas of waste disposal operations.
11. The landfill does not meet the geologic siting criteria for a Class III landfill as outlined in Subchapter 15 that requires all wastes to be placed a minimum of five feet above the highest anticipated elevation of the underlying groundwater. Wastes at this site have been placed at and below the elevation of the alluvial groundwater beneath the site, pursuant to Waste Discharge Requirements (WDR) adopted by the Board. However, all additional wastes disposed of at this site, with the exception of the inert wastes disposed of in the expansion area as part of the leachate control system, will be placed on top of wastes already in place at the site. Additionally, since there is not a demonstrated adverse impact, at this time, on any beneficial uses of any groundwater resulting from waste disposal operations at the site and since relocating the wastes would be prohibitively expensive the Board finds that the prescriptive standard regarding the five foot separation between the wastes and the highest anticipated elevation of the underlying groundwater is not feasible in this case. Because of the of possible groundwater pollution, this exemption, and the need for possible remedial action to justify granting this exemption, will be evaluated as part of this Order within one year.
12. Surface runoff from the site serves as recharge for the shallow groundwater found in the alluvial deposits immediately underlying the site. This shallow groundwater discharges into the drainage channels, sloughs, and wetlands surrounding the site.
13. The discharger has proposed to construct a leachate collection system along the northern boundary of the site as an attempt to control, and prevent, the buildup of leachate within the existing fill area. The discharger has also installed leachate monitoring/extraction wells throughout the existing fill area to provide better control to prevent the buildup of leachate at the site. This system was designed as a cost effective means to control leachate at the site, to prevent the migration of leachate into the underlying groundwater, and to protect the beneficial uses of the waters of the State. Compliance with this Order will provide for an evaluation of the need for additional remedial action and any adverse impacts on the waters of the State.
14. The beneficial use of the shallow groundwater (elevation MSL to -15 feet below MSL) found in the surficial alluvial deposits at and around the landfill is to recharge the surface waters of South San Francisco Bay and contiguous waters and the deeper groundwater. The beneficial uses of South San Francisco Bay and contiguous waters are as follows:

- a. Wildlife habitat
- b. Brackish and salt water marshes
- c. Water contact recreation
- d. Non-contact water recreation
- e. Commercial and sport fishing
- f. Preservation of rare and endangered species
- g. Estuarine habitat
- h. Fish migration and spawning

The present and potential beneficial uses of the deeper groundwater (below elevation -60 feet below MSL) are as follows:

- a. Domestic and municipal water supply
- b. Industrial process water supply
- c. Industrial service supply
- d. agricultural supply

15. The discharger submitted, as a part of their Report of Waste Discharge, the following reports: 1) "Report of Waste Discharge" (3E Engineering December 1986) including the January 21, 1987 design drawings, 2) "Sludge Management Plan", October 21, 1986 and November 3, 1986 addendum, 3) "Field Exploration and Laboratory Testing, Nine Par Company's Waste Disposal Site" (Cooper-Clark and Associates, November 1, 1974), 4) "Geotechnical Investigation, Nine Par...", (Cooper-Clark and Associates, May 2, 1975), 5) "An Engineering Study of Solid Waste Facilities", (Barrett and Associates, June 1975), 6) "Foundation Investigation", (Cooper Engineers, December 12, 1984), and 7) "Geotechnical Evaluation", (Cooper Engineers, February 27, 1985). The above cited reports, as modified by the requirements of this Order, propose to construct and operate the landfill in accordance with the requirements of Subchapter 15 and are hereby incorporated as a part of this Order.
16. The discharger's Report of Waste Discharge (ROWD) is deficient in the following areas:
 - a. The ROWD did not provide evidence of an irrevocable closure fund or other means to ensure closure and post-closure maintenance according to the closure plan.
 - b. The ROWD did not provide an acceptable slope stability analysis that demonstrates that the proposed slope design will be stable under static and pseudo-static conditions and that the design features of the landfill will not fail due to a maximum credible earthquake or because of liquefaction. A new slope stability analysis is being completed.
 - c. The ROWD did not provide an adequate management plan to properly dispose of the leachate extracted from the landfill.
 - d. The ROWD did not establish background groundwater quality and WQPS according to the requirements of Articles 5 and 9 of Subchapter 15.

17. The Regional Board adopted a revised Water Quality Plan for the San Francisco Bay Basin on July 1, 1982 and this Order implements the water quality objectives stated in that plan.
18. The City of San Jose Planning Department, as lead agency, adopted a final Environmental Impact Report on September 21, 1983 for the expansion and the continued operation of this landfill as required under the California Environmental Quality Act (CEQA). This report identifies the following adverse impacts relative to water quality:
 - a. Differential settlement of landfill mass could cause daylighted refuse. This could create polluted runoff from the site.
 - b. Slope failure under static and pseudo-static conditions could cause a nuisance and contamination of ground and surface waters of the State.
 - c. Infiltration of rainwater into the fill would produce leachate. This could contaminate ground and surface waters of the State.
 - d. Flooding of the site could result in removal of waste and contamination of surface and groundwater.
 - e. Runoff from the site causing erosion and siltation could degrade surface waters.
 - f. Preemption of wildlife habitat.

The following measures will mitigate the identified adverse impacts:

a & b. Seismic Impacts

The EIR approved of a seismic analysis for the site that is not acceptable to the Board. This Order requires a more thorough analysis of seismic effects on the landfill and an analysis of liquefaction and how these issues could affect the designed containment structures. There may be minor changes to the site design based on the new seismic analysis. Therefore, compliance with this Order and possible implementation of additional containment measures should provide for adequate protection against seismic effects. The site will also be maintained to repair any damage to leachate control and monitoring facilities that may result from an earthquake.

c, d & e. Groundwater and Surface Water Degradation

The site will not be accepting any liquid waste and will be operated to prevent infiltration of surface runoff to prevent the generation of leachate. A leachate collection system will be constructed and operated to prevent leachate migration into ground and surface waters of the State.

Design and operation of the landfill based on natural geologic conditions and in accordance with Subchapter 15 will ensure containment of landfill waste, minimize leachate production, and prevent adverse impacts on surface and groundwater quality.

Monitoring of groundwater with wells to insure the integrity of containment structures and leachate monitoring and control facilities.

Compliance with the regulations and standards contained in Subchapter 15 and waste discharge requirements adopted by the Board.

Flooding

A levee will be constructed along the site perimeter to prevent inundation resulting from a flood with a return frequency of 100 years.

f. Wildlife Habitat Loss

The Board has adopted an NPDES permit, and found that there is a public need for refuse filling of wetlands within the authorized fill expansion area. The filling of this area will generate the funds necessary to properly close the site and protect the waters of the State in the future. The Board also required mitigation for the loss of wetlands.

19. The Board has notified the discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge, and has provided them with an opportunity to submit their written views and recommendations.
20. The Board in a public meeting heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that Zanker Road Resource Recovery, Inc. and Zanker Road Resource Managment, and any other persons that currently or in the future own this land or operate this facility, shall meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder and shall also comply with the following:

A. PROHIBITIONS

1. The disposal of waste shall not create a pollution or nuisance as defined in Section 13050(1) of the California Water Code.

2. Wastes shall not be placed in or allowed to contact ponded water from any source whatsoever.
3. Wastes shall not be disposed of in any position where they can be carried from the disposal site and discharged into waters of the State or of the United States.
4. Hazardous and designated wastes as defined in Sections 2521 and 2522 of Subchapter 15, and high moisture content wastes (including sewage sludge, septic tank waste and wastes containing less than 50% solids), shall not be deposited or stored at this site.
5. The discharger shall not cause the following conditions to exist in waters of the State at any place outside the waste management facility:
 - a. Surface Waters
 1. Floating, suspended, or deposited macroscopic particulate matter or foam.
 2. Bottom deposits or aquatic growth.
 3. Alteration of temperature, turbidity, or apparent color beyond natural background levels.
 4. Visible, floating, suspended or deposited oil or other products of petroleum origin.
 5. Toxic or other deleterious substances to be present in concentrations or quantities which may cause deleterious effects on aquatic biota, wildlife or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentrations.
 - b. Groundwater
 1. The groundwater shall not be degraded as a result of the waste disposal operation.
6. Leachate from wastes and ponded water containing leachate or in contact with refuse shall not be discharged to waters of the State or the United States.

B. SPECIFICATIONS

1. Water used during disposal operations shall be limited to a minimal amount necessary for dust control and fire suppression.
2. The site shall be protected from any washout or erosion of wastes or covering material and from inundation which could occur as a result of a 100 year 24 hour precipitation event, or as the result of flooding with a return frequency of 100 years.

3. Surface drainage from tributary areas, and internal site drainage from surface and subsurface sources, shall not contact or percolate through wastes during disposal operations or during the life of the site. Earthen drainage ditches constructed over refuse fill will be underlain with a minimum 5-foot thickness of compacted earthfill.
4. Permanent leachate control facilities shall be constructed at the northern toe of the existing fill area and leachate monitoring and extraction wells shall be installed in the locations shown on Attachment A. Measures shall be taken to ensure that leachate in the leachate collection system can flow freely into the collection sump. Measures shall also be taken to assure that leachate collection sumps and extraction wells will remain operational permanently.
5. The leachate monitoring and control system shall be maintained and operated to prevent the buildup of hydraulic head on the bottom of the landfill as well as the toe of the landfill. The elevation of leachate within the fill shall be maintained below the elevation of the groundwater surrounding the site. This leachate control system, and the leachate monitoring and extraction wells, shall be inspected monthly, and any accumulated fluid shall be removed. The leachate wells shall be pumped dry.
6. A geologic map of the base of the excavation in the expansion area shall be continuously updated as excavation proceeds. All fracture zones and cracks, and areas of the landfill underlain by any geologic material, of at least 3 feet in thickness, that does not have a laboratory permeability of less than 10^{-6} cm/sec, which might allow leachate to migrate into the underlying groundwater shall be clearly marked. Any of these areas which require artificial sealing shall be sealed with a minimum of a 3 foot thick barrier of earth fill clay liner, or other liner material and thickness acceptable to the Executive Officer, that has an in-place permeability of no more than 10^{-6} cm/sec.
7. The discharger shall ensure that the foundation of the site, the refuse fill, and the structures which control leachate, surface drainage, erosion and gas for this site are constructed and maintained to withstand conditions generated during the maximum probable earthquake.
8. As portions of the landfill are closed, the exterior surfaces shall be graded to a minimum slope of three percent in order to promote lateral runoff of precipitation. In addition, all completed disposal areas shall be covered with a minimum of 4 feet of cover and meet other applicable requirements as described in Article 8 of Subchapter 15. Fill Area 1 shall be covered according to the the design submitted in report No. 2 cited in Finding No. 15 of this Order.

9. The discharger shall operate the waste management facility so as not to cause a statistically significant difference to exist between water quality at the compliance points and the following Water Quality Protection Standards. The compliance points are identified as monitoring wells G-1 thru G-6, G-8 and G-9, in the attached self-monitoring program. The background water quality monitoring point is identified as G-7. (WQPS to be established after one years worth of monitoring data has been collected)
 - a. pH=
 - b. Total Organic Carbon=
 - c. Nitrate Nitrogen=
 - d. Total Kjeldahl Nitrogen=
 - e. Phenol=
 - ~~f. Mercury=~~
 - g. Arsenic=
 - h. Cadmium=
 - i. Chromium=
 - j. Copper=
 - k. Nickel=
 - l. Selenium=
 - m. Silver=
 - n. TCE=
 - o. Chloromethane=
10. The discharger shall install any additional groundwater and leachate monitoring devices required to fulfill the terms of any Self-Monitoring Program issued to the discharger in order that the Board may evaluate compliance with the conditions of this Order.
11. The discharger shall construct, operate and close the landfill according to the designs contained in the reports cited in Finding No. 15 of this Order.

C. PROVISIONS

1. The discharger shall comply with all Prohibitions, Specifications, and Provisions of this Order, except Specifications B.4, B.5, B.7, and B.9 immediately upon adoption of this Order.
2. The discharger shall comply with Specifications B.4, B.5, B.7, and B.9 according to the following schedule of tasks:

TASK

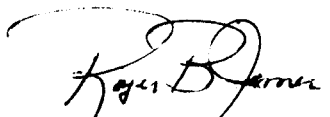
COMPLIANCE DATE

- a. Submit a slope stability analysis that evaluates the stability of the design slopes under static and pseudo-static loading conditions. This report shall address the potential for liquifaction at the site and the effect that liquifaction would have on the design features of the landfill. If this stability analysis finds that the design of the landfill is not adequate for any reason this report shall include an amended design, acceptable to the Executive Officer, that provides a new design assuring slope stability.
- May 1, 1987
- b. Submit a report that evaluates the quantity of leachate that will have to be extracted from the leachate collection system and leachate extraction wells in order to comply with the requirements of this Order. This report should also include a proposal to provide for the proper disposal of the extracted leachate.
- May 1, 1987
- c. Submit a report that establishes background groundwater quality, and WQPS, for the parameters listed in Specification B.9, according to the requirements of Articles 5 and 9 of Subchapter 15. This report shall include an evaluation of the apparent groundwater contamination found in the shallow groundwater immediately beneath the site and any adverse impacts this pollution may have on the beneficial uses cited in Finding No. 14 of this Order.
- April 15, 1988
- d. Complete construction of the leachate collection system along the northern boundry of the site and install all required leachate monitoring/extraction wells. Submit a report that certifies that the leachate collection system has been constructed according to the design contained in the ROWD.
- September 1, 1988

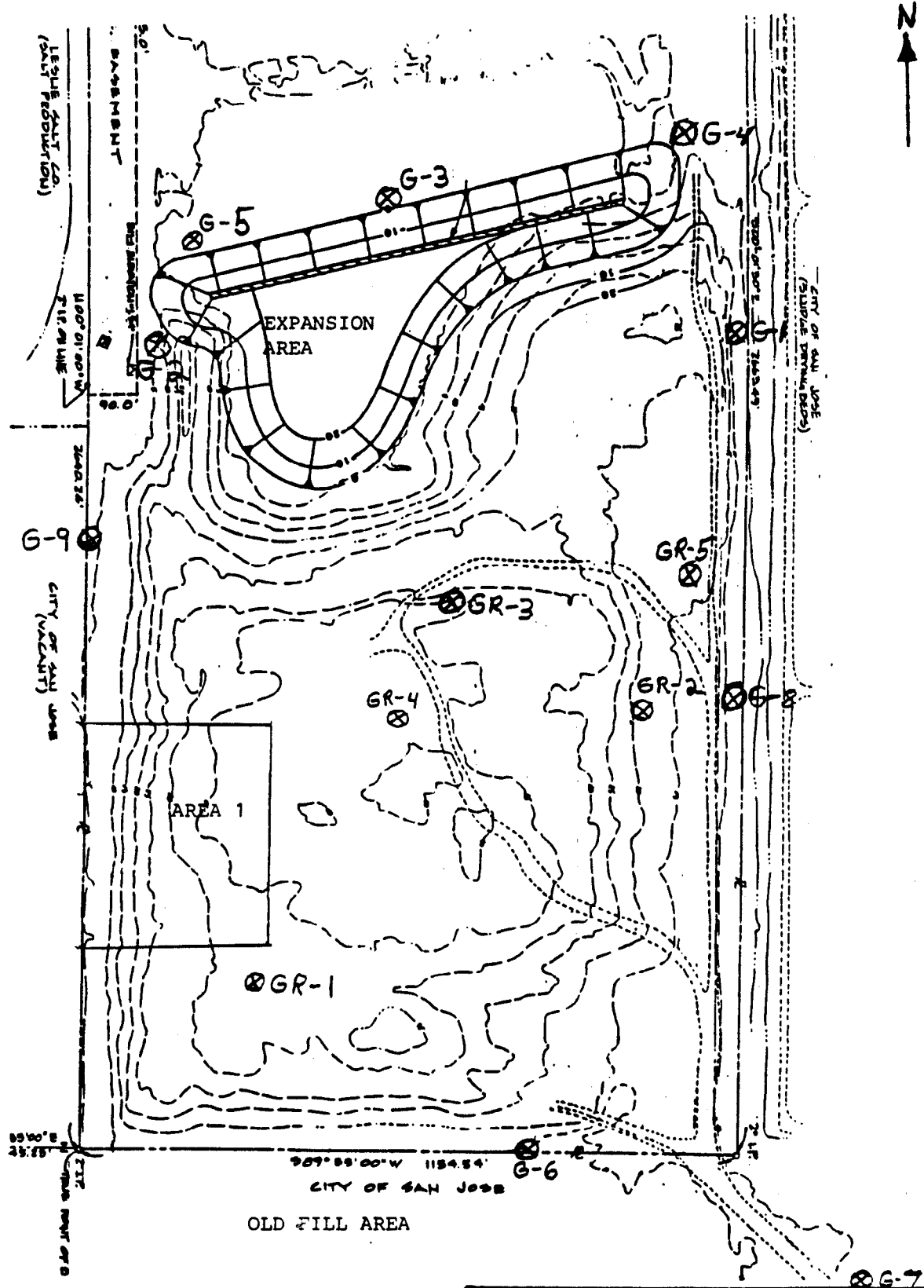
3. The discharger shall file with the Regional Board quarterly self-monitoring reports performed according to any self-monitoring program issued by the Executive Officer.
4. At least 30 days prior to commencement of filling of the expansion area of the site the discharger shall submit a report indicating compliance with all Prohibitions, Specifications, and Provisions of this Order. This shall include as-built construction diagrams and certification. Filling of the area described in the report shall not commence until the Executive Officer approves this report based on its demonstration of compliance with this Order.
5. All reports pursuant to these Provisions shall be prepared under the supervision of a registered civil engineer or certified engineering geologist.
6. The discharger shall remove and relocate any wastes which are discharged at this site in violation of these requirements.
7. The discharger shall submit, within 90 days after the closure of a given area, a closure certification report that documents that the area has been closed according to the requirements of this Order and Subchapter 15. The discharger shall close Area No. 1 by October 1, 1987 and the closure certification report for this area shall include the locations of two permanent monument from which all wastes and containment and monitoring devices can be located. The discharger shall also submit a final closure plan for the site 180 days prior to the closure of the final phase of the landfill. This plan shall evaluate the post closure monitoring and maintenance costs and the adequacy of the irrevocable closure fund.
8. The discharger shall submit evidence of an irrevocable closure fund, pursuant to Section 2580(f) of Subchapter 15, by July 1, 1987, that will provide sufficient funds to properly close each area of the landfill and for the post closure monitoring and maintenance of the site. For the purposes of planning the amount of this fund the discharger shall assume a post closure period of at least 30 years.
9. The discharger shall file with this Board a report of any material change or proposed change in the character, location, or quantity of this waste discharge. For the purpose of these requirements, this includes any proposed change in the boundaries of the disposal areas or the ownership of the site.
10. The discharger shall maintain a copy of this Order at the site so as to be available at all time to site operating personnel.
11. This Board considers the property owner and site operator to have continuing responsibility for correcting any problems which arise in the future as a result of this waste discharge or related operations.

12. The discharger shall maintain all devices or designed features installed in accordance with this Order such that they continue to operate as intended without interruption except as a result of failures which could not have been reasonably foreseen or prevented by the discharger.
13. The discharger shall permit the Regional Board or its authorized representative, upon presentation of credentials:
 - a. Entry upon the premises on which wastes are located or in which any required records are kept.
 - b. Access to copy any records required to be kept under the terms and conditions of this Order.
 - c. Inspection of any treatment equipment, monitoring equipment, or monitoring method required by this Order.
 - d. Sampling of any discharge or groundwater covered by this Order.
14. This Board's Order No. 75-18 is hereby rescinded.
15. These requirements do not authorize commission of any act causing injury to the property of another or of the public; do not convey any property rights; do not remove liability under federal, state or local laws; and do not authorize the discharge of wastes without appropriate permits from other agencies or organizations.

I, Roger B. James, Executive Officer, do hereby certify that the foregoing is a full, complete, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on April 15, 1987.


Roger B. James
Executive Officer

Attachments: A) Site map
B) Self Monitoring Program



SCALE: 1 inch = 250 feet

⊗ = Groundwater and Leachate Monitoring Well Locations

STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ATTACHMENT A: ZANKER ROAD RESOURCE
MANAGEMENT, CLASS III
LANDFILL
SITE MAP

DRAWN BY:

DATE:

DRWG NO.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM

FOR

ZANKER ROAD RESOURCE RECOVERY, INC.
ZANKER ROAD RESOURCE MANAGEMENT
ZANKER ROAD CLASS III LANDFILL
705 LOS ESTEROS ROAD
SAN JOSE, SANTA CLARA COUNTY

PART A

A. GENERAL

Reporting responsibilities of waste dischargers are specified in Sections 13225(a), 13267(b), 13383, and 13387(b) of the California Water Code and this Regional Board's Resolution No.73-16. This Self-Monitoring Program is issued in accordance with Section C.3 of Regional Board Order No. 87-032.

The principal purposes of a self-monitoring program by a waste discharger are: (1) to document compliance with waste discharge requirements and prohibitions established by the Board, (2) to facilitate self-policing by the waste discharger in the prevention and abatement of pollution arising from waste discharge, (3) to develop or assist in the development of effluent standards of performance, pretreatment and toxicity standards, and other standards, and (4) to prepare water and wastewater quality inventories.

B. SAMPLING AND ANALYTICAL METHODS

Sample collection, storage, and analyses shall be performed according to most recent version of Standard Methods for the Analysis of Wastewater.

Water and waste analysis shall be performed by a laboratory approved for these analyses by the State Department of Health. The director of the laboratory whose name appears on the certification shall supervise all analytical work in his/her laboratory and shall sign all reports of such work submitted to the Regional Board.

All monitoring instruments and equipment shall be properly calibrated and maintained to ensure accuracy of measurements.

C. DEFINITION OF TERMS

1. A grab sample is a discrete sample collected at any time.

2. Receiving waters(s) refers to any water which actually or potentially receives surface or groundwaters which pass over, through, or under waste materials or contaminated soils. In this case the groundwater beneath and adjacent to the landfill, the surface runoff from the site, the unnamed sloughs and drainage ditches surrounding the site, Artesian Slough, Coyote Creek, and South San Francisco Bay are considered the receiving waters.
3. Standard observations refer to:
 - a. Receiving Waters
 - 1) Dicoloration and turbidity: description of color, source, and size of affected area.
 - 2) Evidence of odors, presence or absence, characterization, source, and distance of travel from source.
 - 3) Evidence of beneficial use: presence of water associated wildlife.
 - 4) Flow rate.
 - 5) Weather conditions: wind direction and estimated velocity, total precipitation during the previous five days and on the day of observation.
 - b. Perimeter of the waste management unit.
 - 1) Evidence of liquid leaving or entering the waste management unit, estimated size of affected area and flow rate. (Show affected area on map)
 - 2) Evidence of odors, presence or absence, characterization, source, and distance of travel from source.
 - 3) Evidence of erosion and/or daylighted refuse.
 - c. The waste management unit.
 - 1) Evidence of ponded water at any point on the waste management facility.
 - 2) Evidence of odors, presence or absence, characterization, source, and distance of travel from source.
 - 3) Evidence of erosion and/or daylighted refuse.

4. Standard analysis and measurements refer to:

- a. pH
- b. Electrical Conductivity (EC)
- c. Total Dissolved Solids (TDS)
- d. Total Phenols
- e. Chloride
- f. Total Organic Carbon
- g. Nitrate Nitrogen
- h. Total Kjeldahl Nitrogen.
- i. Water elevation in feet above Mean Sea Level.
- j. EPA Method 601, identifying all peaks greater than 1 microgram/liter.
- k. Settleable Solids ml/l/hr
- l. Antimony, Arsenic, Cadmium, Chromium, Copper, Nickel, Selenium, and Silver

D. SCHEDULE OF SAMPLING, ANALYSIS, AND OBSERVATIONS

The discharger is required to perform sampling, analysis, and observations according to the schedule specified in Part B, and the requirements of Article 5 of Subchapter 15.

E. RECORDS TO BE MAINTAINED

Written reports shall be maintained by the discharger, and shall be retained for a minimum of three years. This period of retention shall be extended during the course of any unresolved litigation regarding this discharge or when requested by the Regional Board. Such records shall show the following for each sample:

1. Identity of sample and sample station number.
2. Date and time of sampling.
3. Date and time that analyses are started and completed, and name of the personnel performing the analyses.
4. Complete procedure used, including method of preserving the sample, and the identity and volumes of reagents used. A reference to a specific section of a reference required in Part A Section B is satisfactory.
5. Calculation of results.
6. Results of analyses, and detection limits for each analyses.

F. REPORTS TO BE FILED WITH THE REGIONAL BOARD

1. Written self-monitoring reports shall be filed each calendar quarter by the fifteenth day of the following month. In addition an annual report shall be filed as indicated in F.2 The reports shall be comprised of the following:

a. Letter of Transmittal

A letter transmitting the essential points in each self-monitoring report should accompany each report. Such a letter shall include a discussion of any requirement violations found during the past quarter and actions taken or planned for correcting the violations, such as operation modifications and/or facilities expansion. If the discharger has previously submitted a detailed time schedule for correcting requirement violations, a reference to the correspondence transmitting such schedule will be satisfactory. If no violations have occurred in the last quarter this shall be stated in the letter of transmittal. Monitoring reports and the letter transmitting reports shall be signed by a principal executive officer at the level of vicepresident or his duly authorized representative if such representative is responsible for the overall operation of the facility from which the discharge originates. The letter shall contain a statement by the official, under penalty of perjury, that to the best of the signer's knowledge the report is true, complete, and correct.

b. Each report shall include a compliance evaluation summary sheet. This sheet shall contain:

1. The sample mean and the sample variance for all sample sets taken from all compliance points, and shall determine if the difference between the mean of each sample set and the water quality protection standard is significant at the 0.05 level using Cochran's Approximation to the Behrens-Fisher Student's t-test as described in Appendix II of Subchapter 15. The discharger may propose an alternative statistical procedure to be used in making this determination pursuant Section 2555(h)(3) of Subchapter 15. If a statistically significant difference is found this shall be reported as a suspected requirement violation in the letter of transmittal.

2. A graphic description of the velocity and direction of groundwater flow under/around the waste management unit, based upon the past and present water level elevations and pertinent visual observations.

c. A map or aerial photograph shall accompany each report showing observation and monitoring station locations.

d. Laboratory statements of results of analyses specified in Part B must be included in each report. The laboratory director shall sign the laboratory statement of analytical results.

e. An evaluation of the elevation of leachate built up within the landfill and compliance with Specification B.5 of Order No. 87-032.

2. ~~By January 31 of each year the discharger shall submit an annual report to the Regional Board covering the previous calendar year.~~

This report shall contain:

- a. Tabular and graphical summaries of the monitoring data obtained during the previous year.
 - b. A comprehensive discussion of the compliance record, and the corrective actions taken or planned which may be needed to bring the discharger into full compliance with the waste discharge requirements.
 - c. A map showing the area, if any, in which filling has been completed during the previous calendar year.
 - d. A written summary of the groundwater analyses indicating any change in the quality of the groundwater.
 - e. An evaluation of the effectiveness of the leachate monitoring/control facilities.
3. A well drilling log shall be submitted for each sampling well established per this monitoring program, as well as a report of inspection or certification that each well has been constructed in accordance with the construction standards of the Department of Water Resources. These shall be submitted within 30 days after well installation.

Part B

1. DESCRIPTION OF OBSERVATION STATIONS AND SCHEDULE OF OBSERVATIONS .

A. Waste Monitoring

1. Record the total volume and weight of refuse in cubic yards and tons disposed of at the site during the month. Report this information quarterly.
2. Record the volume of fill completed, in cubic yards, showing locations and dimensions on a sketch or map. Report this information quarterly.

B. On-site Observations

STATION	DESCRIPTION	OBSERVATIONS	FREQUENCY
V-1 thru V-'n'	Located on the waste disposal area as delineated by a 500 foot grid network.	Standard observations for the waste management unit.	Weekly
P-1 thru P-'n' (perimeter)	Located at equidistant intervals not exceeding 500 feet around the perimeter of the disposal area.	Standard observations for the perimeter.	Weekly

A map showing visual and perimeter compliance points (V and P stations) shall be submitted by the discharger in the quarterly monitoring report.

C. Seepage Monitoring

STATION	DESCRIPTION	OBSERVATION	FREQUENCY
S-1 thru S-'n' (seepage)	At any point(s) at which seepage is found occurring from the disposal area.	Standard observations for the perimeter, and standard analysis other than "i"	Daily until remedial action is taken and seepage ceases.

STATION	DESCRIPTION	OBSERVATION	FREQUENCY
CU-1 (receiving waters, upstream)	Located in the sloughs and drainage ditches surrounding the site.	Standard observation for receiving waters and standard analysis other than "i".	Daily, during a seepage event.
CD-1 thru CD-'n' (receiving waters down- stream)	Located in the Artesian Slough drainage 200 feet downstream of seepage discharge(s).	Same as receiving waters upstream.	Daily during a seepage event.

D. Groundwater Monitoring

STATION	DESCRIPTION	OBSERVATION/ ANALYSIS	FREQUENCY
G-7 (G-7 is to be installed) as a ground- water back- ground well)	Located as shown on the attached site map. (G-7 to be installed adjacent to Los Esteros Road across from the treat- ment plant)	Standard analysis other than "k". **	Once per quarter.
G-1 thru G-6, G-8 and G-9	Located as shown on the attached site map.	Standard analysis other than "k".	"

** The first round of analysis for this well shall include a complete scan for priority pollutants using EPA Methods 624 and 625 and an EPA approved method for all priority pollutant heavy metals. The analytical report shall identify all peaks greater than 1 microgram/liter or the standard detection limit. This analysis is in addition to the standard analysis listed in Part A and in lieu of EPA Method 601 for the first quarter.

E. Leachate Monitoring

STATION	DESCRIPTION	OBSERVATION	FREQUENCY
GR-1 thru GR-5	Leachate control facilities including sumps and wells to be installed.	Depth of leachate built up at base of land- fill, and volume removed. (See Note ** above for additional analysis requirements for the first quarter only.)	Once per quarter and at time of removal.

2. CONTINGENCY REPORTING

- A. A report shall be made by telephone of any seepage from the disposal area immediately after it is discovered. A written report shall be filed with this Board within five days. This report shall contain the following information: 1) a map showing the location(s) of discharge, 2) approximate flow rate, 3) nature of effects; i.e. all pertinent observations and analyses, and 4) corrective measures underway or proposed.
- B. Pursuant to Provision C.4 of this Order, prior to the placement of waste in the expansion area, the discharger shall submit to the Regional Board a report signed by a registered engineer or certified engineering geologist that will document compliance with all Provisions, Specifications, and Prohibitions contained in this Order. This report shall include the geologic map required in Specification B.6 of this Order.
- C. A report shall be made in writing to the Regional Board within seven days if a statistically significant difference is found between a self-monitoring sample set and a WQPS. Notification shall indicate what WQPS(s) have been exceeded. The discharger shall immediately resample at the compliance point(s) where this difference has been found and analyze another sample set of at least four portions split in the laboratory from the source sample.
- D. If resampling and analysis confirms the earlier finding of a statistically significant difference between self-monitoring results and WQPS(s) the discharger must submit to the Regional Board within 90 days an amended Report of Waste Discharge for establishment of a verification monitoring program meeting the requirements of Section 2557 of Subchapter 15. This submittal shall include the information required in Section 2556(b)(2) of Subchapter 15.

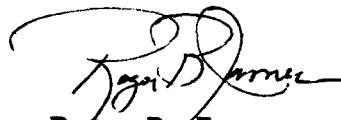
- E. The discharger must notify the Regional Board within seven days if the verification monitoring program finds a statistically significant difference between samples from the verification monitoring program point of compliance and the WQPS(s).
- F. If such a difference or differences are found by the verification monitoring program it will be concluded that the landfill is out of compliance with this Order. In this event the discharger shall submit within 180 days an amended Report of Waste Discharge requesting authorization to establish a corrective action program meeting the requirements of Section 2558 of Subchapter 15. This submittal shall include the information required in Section 2557(g)(3) of Subchapter 15.

3. CONTINGENCY MONITORING

- A. Methane gas monitoring probes shall be installed at the site boundary nearest any structure that is constructed within 1000 feet of the Waste Management Facility. These probes shall be monitored at least once per quarter and more frequently as determined at the time of installation, and results of such monitoring reported in the quarterly self-monitoring reports.

I, Roger B. James, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

- 1. Has been developed in accordance with the procedures set forth in this Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in this Board's Order No. 87-032.
- 2. Is effective on the date shown below.
- 3. May be reviewed or modified at any time subsequent to the effective date, upon written notice from the Executive Officer, or request from the discharge.


Roger B. James
Executive Officer

April 29, 1987
Date Ordered